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Global Trends and Water Policy in Spain

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Abstract*: Stakeholders' responses to hydrological risks (floods and droughts) are embedded in and interlinked to general changes in patterns of thought and action, perception and behavior affecting society. These "macro trends" coincide and interact with the ongoing changes that operate at the local level, depending on the specific features and conditions. Three basic and central "macro trends" can be identified: changing myths of nature, marketization, and re-scaling of decisions, associated with the inclusion or exclusion of new actors can also be assessed. In this paper, a number of hypotheses concerning the characterization and origin of these "macro trends" are presented, taking into account the cultural, political, social-psychological, and economical domains. Throughout the research project, Societal and Institutional Responses to Climate Change and Climatic Hazards: Managing Flood and Drought Risks (SIRCH), these hypotheses were applied to three case study areas – the Lower Guadalquivir basin (Spain), the Thames (England), and the Mouse-Rhine (The Netherlands) – in an attempt to assess and understand similarities and differences through a comparative analysis. In all case studies, an increasing social awareness is observed in recent history. This has increased the pressure on the stakeholders responsible to adapt and has generally lead to varying degrees of public participation and the involvement of a wider spectrum of actors in the water management process. In this article, the conceptual framework of the research and the specific findings of the Spanish case-study are presented.*

Keywords: *water myths, stakeholders, participation, governance, Spain.*

Introduction

Although related to the experience of hydrological risks and conditioned by the internal dynamic of the water policy arena, stakeholders' changing strategies concerning water issues are embedded in and inter-linked to more general social trends. Water-related institutional and stakeholder changes should be viewed as the result of complex dynamics, in which the experience of risk occurrences (droughts and floods), their discursive mediation, and the general processes in the water policy arena due to more general trends are intermingled. The term stakeholder refers to individuals and organizations that determine, influence, or are influenced by resource use and exposure to hazards. Institutions are regularized patterns of behavior that are socially constructed and relatively stable – the rules, norms and shared strategies of new institutional theory. We understand as trends those ongoing changes in patterns of thought and action, perception and behavior, that affect and that are performed by a significant number of people in a society. They stem from social origins or from perceived changes in the physical environment and, in turn, they modify the relationships between societal and environmental systems and provoke new changes in the latter. We talk of macro trends when they are general and common enough processes that marketization or changes in nature myths occur at a wide spatial scale outside the specific water policy arena and affecting homogeneously and also diversely different, regions.

Macro trends coincide and interact with the ongoing changes that operate at the local level, depending on the specific local features, conditions, and behaviors, and they also interact among themselves, in such complex ways that it becomes complicated to determine the causal relationships, synergies, and/or contradictions among them. Controversy also arises about what is the relative importance of micro-level processes versus the influence of macro trends in the process of institutional change. Some similarities can be found between this question and the debate about national policy styles, as T. Lowi and L. Richardson maintain it. Lowi says that distinct types of politics flow from different types of policy issues: there can thus be no national style; instead, the same issue would be dealt with a similar manner by all countries. Conversely, Richardson maintains that a variegated series of responses, molded and structures by the precise configuration of in-

stitutions within each country exist, leading to national responses consonant with a pre-determined national style (Jordan and O'Riordan, 1996).

It is complicated to separate institutional changes induced by the specific experience of a major drought or flood event from macro trends and their materialization in water management institutions. They are generally linked by a mutual relation: the experience and discursive mediation of a hazard are both affected by the currently-in-force processes affecting the society and contribute to accelerate, accept, or modify such trends (Giansante, 2000). The arising social trends interact or merge with earlier, rather fixed patterns of perception and behavior. They can penetrate into certain organizations, social networks, or power centers where they interact with older perceptions and behaviors in these organizations, networks, or centers. The upcoming trends come to dominate in certain social entities interacting in variegating ways with others where previous perceptions and behaviors prevail.

Trends: Identification and Definition

Three basic and central macro trends that affect the responses to hydrological risk can be identified, affecting all the case studies areas: changing myths of nature, marketization, and re-scaling of decisions, and the association with the inclusion or exclusion of new actors can also be assessed.

Changing Myths of Nature

A nature myth is defined as a relatively homogenous and unquestioned conception, shared by a defined group of people, of the values of nature, and it underlies the conceptualization of relations between human beings and nature in a particular society. Myths, which are revealed rather than articulated, are also internally contradictory, and not necessarily shared amongst all members of a particular society. As regarding water, analyzing myths can explain the uses to which water can legitimately be put, and the users who can legitimately do so.

In the last decades the responses to hydrological risks have evolved from a "struggle against the disaster" towards an effort to better adapt to natural values. This implies a new perception of risk and a new perception of nature. Nature was seen as something to be feared and conquered. Increasingly, nature is now viewed as something needing our protection. As a result, merely technological or structural measures are gradually accompanied by other measures aimed at environmental protection and at the optimization of water management.

When water is seen not as the enemy but as an inevitable outcome of the human-environment relationship, hydrological risks are seen as problems of people and their institutions rather than simply a matter of quantity of water: a social problem rather than an engineering problem. The possible solutions are similarly broadened. At the macro policy level the change is epitomized by the near universal attempts to come to grips with the modern concept of sustainable development. Despite the rhetoric of sustainability is much contested, and Osborn characterizes it as "SLUDGE - slightly less unsustainable development genuflecting to the environment" (1997:18), it is acknowledged in European Union (EU) and national strategies throughout Europe as the emerging driving force behind natural resource management, something the new European Commission (EC) Water Framework directive made clear.

Marketization

Marketization responds to a general trend of deregulation, privatization, and, more generally, a change in the relative value assigned to market versus political activity for the management of natural resources. There is a trend to emphasize the role of prices so as to reflect full costs, to signal natural resources scarcity, and to allow flexibility in their reallocation from lower to higher value uses. It implies one or more of the following aspects: private sector involvement and corporatization of the public sector, or restructuring of the public sector along the lines of an idealized image of the private sector; the introduction of markets and markets-simulating techniques; and the prioritization of efficiency. Another dominant issue is the rise in legitimacy of competition to the extent that it is widely seen as being a good thing in virtually all policy areas.

Re-scaling of Decisions

Re-scaling of decision powers away from the level of national governments occurs in the directions of both centralization and decentralization. The increased political significance of regions opens a front of regulatory activities in a downward direction, linked to the principle of subsidiary. On the other hand, there are upwards shifts towards the supra-national level, such as the EU or international river management centers. General processes of globalization contribute to the erosion of capacities of national states to regulate social activities and the environment. This trend means the growth of sub-national and supranational forms of *governance*, or global-localization, with an associated reconfiguration of decision making forms and in the case of water policy "a spiraling proliferation of new water-related institutions, bodies, and actors that are involved in policy-making and strategic planning at a variety of geographical scales" (Swyngedouw, 2002:26).

Inclusion and Exclusion of Stakeholders

The combined operation of these global trends implies changes in the number and variety of actors who involve themselves in the water debate and the changing role of some of them, a process of inclusion or exclusion of new actors. In general, there is a greater sensitivity to public opinion and a further demand for greater public participa-

tion is noticed. However, most relevant is that those abovementioned scale redefinitions "alter and express changes in the geometry of social power, reinforcing the power and control of some social agents, while reducing that of others" (Swyngedouw, 1997:6).

The Historical Context: From Modernity to Late Modernity

For a proper understanding of macro trends, it seems useful to not only identify but also trace them in their main origins and mutual connections. A common denominator among global macro trends has been identified in scholarly literature as late modernity (Beck, 1992), although this evokes objections of different kinds. The late modernity as new times is a perspective closely but not completely allied to the post-industrial and information society, post/neo-Fordism, and postmodernity theses, that point with different emphases to overall changes within society over the last two decades (Allmendinger, 2001).

The Ecological Domain

Naturization is both a result and a proponent of a tendency towards considering long-term sustainability of both society and the environment. First, it emphasizes the need for comprehensive and flexible styles of analysis, policy making, and implementation in various ways. Applied in river basin management, it advocates integrative thinking about previously separately treated functions of the physical environment. Second, the trend of naturization attempts to integrate hard-core technology and economy with soft biology and environmentalism. Third, it acknowledges and stimulates flexible integration between societal segments or domains such as politics, governmental organizations, civil society, and the private sector. Fourth, it is part of the tendency towards more balance and interaction between top-down, authoritarian thinking and bottom-up, democratic thinking.

The Political Domain

Politically, the nation state is an important element of *modernity*. At present, decision powers are gradually delegated away from the national state, in one direction to supra-national bodies, in another direction to provincial governments and local bodies, and in yet another way to non-governmental organizations and the private sector. The internal and external boundaries of the state produce a more hollowed structure (ACACIA, 1999). Nation states find they are increasingly unable to control the economic activities within their own territories as their economies become increasingly integrated and globalized. Governance replaces government.

Contrary to state-based arrangements, which are hierarchical and top-down command-and-control forms of setting rules and exercising power (but recognized as legitimate via socially agreed conventions of representation, delegation, accountability, and control), governance systems are presumably based on horizontal, network, and interactive relations between independent but interdependent actors that share a high degree of trust, despite internal conflict and oppositional agendas, within inclusive participatory institutional or organizational associations. The participants in such forms of governance take part in the decision-making process on the basis of the stakes they hold with respect to the issues these forms of governance attempt to address (Swyngedouw, 2002). However, as the same author explains, the thesis of the transition from statist command and control to horizontally-networked forms of participatory governance has to be qualified in a number of ways. First of all, the national or local state and its forms of political/institutional organization and articulation with society remain important. In fact, the state takes center stage in the formation of the new institutional and regulatory configurations associated with governance, in the context of a greater role of both private economic agents as well as more vocal civil society-based groups. The result is a complex hybrid form of government/governance (Warleigh, 2000, in Swyngedouw, 2002).

The Sociological Domain

Social fragmentation undermines the opportunities of a perhaps innate human need to share responsibilities, tasks, and communication within communities. Environmentalism emerged as a new basis for the fulfillment of such needs. A central paradox emerged between a sense of trust based on technological control and efficiency of the nation-state, and the increased uncertainties derived from processes of environmental deterioration, erosion of the state, and flexibility of the economy. "Trust in abstract systems is not psychologically rewarding in the way in which trust in persons is" (Giddens, 1990). In addition, among academics the awareness about interaction and uncertainty has gained ground, which became known as the shift from normal to post-normal science. Thus, evaluation procedure of new projects evolves into a multi-dimensional and multi-stakeholder participatory approach that tries to take into account and deal with complexity, uncertainty and conflictive values in dispute (Funtowicz et al., 1996). The perception of absolute boundaries between scientific observers and observed actors has been adjusted towards viewing stakeholders as both objects and subjects in research (van der Werff and Gupta, 2001).

Macro Trends, Agents, and Locale

Besides the origin of these macro trends, some other basic questions arise concerning the interactions between macro-level and micro-level: how are macro trends embodied in local power centers, social networks, and/or actors practices? Why these macro trends affect in different ways different case-study areas? What are the reasons of the spatial diversity (regionalization) of these interactions?

The problem of linkage between agents, local conditions, and macro trends in concrete and different regions is connected with the attempts at building a social theory of space. Decades ago, Ives Lacoste proposed the "theory of differential spatiality" that would allow to explain the spatial differentiation of any global process (Lacoste, 1977). Facing the same problem, Henry Lefebvre proposed the notion of "social production of space," considering that space is not only the neutral scenario in which social processes take place, but rather that social structures do not have real existence nor can they be understood without spatial structures, and vice versa (Lefebvre, 1974). Space, even though it is a social structure like other aspects of society, "also has a certain number of particular characteristics that make it something different (relatively autonomous) from the whole of social aspects" (Lefebvre, 1974).

More recently, the structuration theory by Giddens has contributed to the introduction of concern and interest in social science regarding space. Giddens believes that space-time relations constitute fundamental characteristics of the more stable forms of social life as well as of those subject to more extreme or radical processes of change. All of them take place in the "locale," not just the mere scenario of action: for Giddens locale is a consubstantial factor in the constitution of social action. That is to say, a space is ontologically autonomous, although dialectically linked to social practice, which helps explain the diversity (regionalization) of socio-temporal forms of the human action-structure interaction (Giddens, 1984).

The current unquestioned importance of socio-spatial structuration of daily life does not imply that the local/regional or any other scale should necessarily be the priority scope of analysis. In this point, the "glocalization" process (a combination of the local and global perspectives) comes as an interesting reference. According to Swyngedouw (1997), the central issue would not be so much whether the local or global perspectives have theoretical or empirical priority in the conditions of daily life; but, rather, in what measure importance and position, articulation and interdependence of local, regional, national supra-national or global scales, in constant transformation, are themselves the results of socio-spatial change processes. The key idea is that these processes change the importance and role of certain geographical scales, confirm the importance of other scales, and, sometimes create entirely new scales.

Global Trends and their Occurrence in Water Policy in Spain

How do all these considerations apply to Spain?

Changing Myths of Nature

For over a century, one particular hydraulic policy has prevailed in Spain: the hydraulic paradigm (Moral and Sauri, 1999), which has been well described elsewhere in an extensive bibliography (see for instance Schmidt and Plaut, 1995; Feitelson, 1996; Allan, 1999). The central axiom of this paradigm, which was formulated in the late 19th century, consists of the need to provide an adequate water supply for all those social agents who are prepared to use it in the development of production, especially for irrigation. This development entailed a project for the geographical transformation of the country: the regeneration of an adverse landscape, characterized by aridity and barrenness and its consequences of under-development and lack of growth, but a landscape able to respond favorably to human involvement based on geographical knowledge, technique, and collective will. The privileged instrument behind this project for physical and moral regeneration would be hydraulic works funded from public money, in the all too frequent case that private initiatives were not in a position to take on the risks of involvement.

The specific characteristics and different historical manifestations throughout the 20th century of the hydraulic paradigm in Spain have often been dealt with, both by Spanish authors (Gómez Mendoza and Ortega Cantero, 1987; Ortega Cantero, 1992; Naredo, 1997; López Ontiveros, 1998) as well as authors of other nationalities (Drain, 1995; Swyngedouw, 1999). Neither the recent history of the country, nor its present geographical layout, can be understood without taking into account what human involvement in the water environment and its radical transformation has meant: Spain is the country which holds the world record for the largest extent of geographical area occupied by man-made reservoirs (Naredo, 1999). It is a well-known fact that the hydraulic policy has professed itself to be the greatest expression of the correct policy needed by the country, playing an important role in the legitimization of the State, a phenomenon which has also been described in other geographical contexts (Faggi, 1996).

The idea of the universally beneficial nature of irrigation which underlies this way of thinking "entails a simplistic and abusive generalization of the experience acquired in certain traditional irrigation areas" (Ortega Cantero, 1992), which was for the first time criticized by the geographer Jean Brunhes in his doctoral thesis on irrigation in the Iberian Peninsula and North Africa (1904). However, irrigation became a national enterprise able, not only of playing a decisive part in the solving of agricultural, economic, and social problems, but also of "re-shaping the geography of the Mother Country" and permitting the necessary "regeneration of the race" (Joaquín Costa, 1892, in Ortí, 1984). Such an emotive emphasis suggests that literature and the propaganda of hydraulic regeneration were characterized, in their mythological structure, by the deep-seated symbolism of water as a sign of regeneration. "Contact with water," in the words of the anthropologist Mircea Eliade, "always implies a regeneration; [...] Faced with the barrenness of the landscape [...] which sums up all

the miseries and frustrations of under-development, an abundance of water takes on a mythical dimension, in the words of the regenerationists, as the promise of a re-birth of the country's vital energies and widespread abundance" (Ortí, 1984).

In its deepest cultural facet, the resistance and continuity so far of the traditional hydraulic paradigm that can be found even in the latest arguments of the Spanish water authorities have as their mainstay a system of values concerning the relationship between water and society which is deeply rooted in the symbolic universe (Berger and Luckmann, 1968) which prevails in the country. On the one hand, there is the perception of water as a hostile medium, generally fluctuating, uncertain and threatening. This perception is based on the reality of rivers subject to occasional torrential floods and to extremely low flows, the latter coinciding precisely with the hottest season of the year (Moral, 2000). Furthermore, the hostility of the natural water environment gains in splendor and beauty thanks to human involvement. Thus human-built water landscapes (*orchards, huertas*) come to be valued as ideal images of the hydraulic domain. The positive image of domesticated water as a basic feature of development has overridden so far the negative image of impacts on natural aquatic media.

Another continuity factor, that opposes in Spain the general trend to naturalization, is the understanding of geographical imbalances as great obstacles for development and well-being, which confirms and strengthens the idea of the transformation of nature, mainly of the hydraulic system, as a key feature of any modernizing political program. Once the resources of the driest regions are exploited to the limit according with the traditional mechanisms, the objective behind the hydrological balance between river basins by means of inter-basin transfers becomes an all-important issue.

In spite of this factor of continuity, over the last decade certain outstanding elements of environmental consciousness have appeared in the debate over resource exploitation in Spain helping to undermine some of the conceptions of the above-mentioned hydraulic paradigm. Such processes, in fact, are the regional expression of large-scale phenomena operating on a worldwide scale. In the last decade, innumerable books, doctoral theses, articles, and papers for scientific meetings have appeared with a diagnosis of the hydraulic paradigm crisis, in line with what has been described in the case of other countries. These elements of change include the amendment of values regarding nature which, although they have occurred later than in other European countries, are now being introduced into Spain, competing with the elements of the symbolic universe described previously. In Spain, as in so many other places, from the mid 70s onwards insalubrious marshy areas which were still in the process of drying up became wet zones of great ecological value, despite the initial skepticism of society as a whole. The rivers which had to be channeled and, if possible, diverted away from populated areas became spatial resources of great potential, especially for urban design and for the image and promotion of cities.

In the case of the inter-basin water transfers proposed by the National Hydrological Plan, the feasibility of reaching an agreement about the necessary compensations to alleviate the dwindling of resources is complicated on account of the emergence of this new environmental and patrimonial way of thinking about water. From this point of view, the problem of defining "excess water resources" in exporting river basins (a simplistic although key notion in the traditional hydraulic paradigm) is as absurd as the hypothetical counting, for example, of "excess trees," once the needs for wood is defined. "Do water and forests not fulfill, among many other roles, their aesthetic and natural role where they already are? Does water not form a fundamental part of the essence and value of expectation in the river basins deprived of their sources, and whose hydrological regimes are changed?" (Martínez Gil, 1997).

Marketization

This progressive but difficult increase in environmental concerns is re-enforced, in the case of criticism of the traditional hydraulic paradigm, by tendencies towards marketization in social life, with its emphasis on cost-recovery prices, privatization and the application of criteria of economic viability to public investments.

In Spain there are strong objections to treat water as just another commodity. In this country discourses emphasizing economic efficiency, markets and the like are not able to generate a general consensus when applied to this resource, given the long-established institutional arrangements regarding water and its special symbolic status. Nevertheless, with a lower intensity than in others case-studies, the marketization tendency also is making its influence felt in the Spanish case and a general atmosphere, favorable to solutions that incorporate scarcity indicators, which would include both the provision for costs recovery and economic analysis of water use, is developing.

Furthermore, the growing rejection of the paternalistic and interventionist system in force – that some writers in favor of the market as the only efficient formula for resource management have called "State socialism" (Vergés, 1998) – has led to a certain consensus regarding the fact that the introduction of market instruments will have positive effects on the management system as a whole, although it may only affect a small part of resources. The buying and selling of water rights would act, in the experts' opinions, as a mechanism for re-valuation of water as a scarce commodity and would introduce the economic dimension in the users' minds, making them think in terms of opportunity costs and levels of marginal productivity in water use. Putting in practice a system of exchanges among users would help to avoid water restrictions

in places situated near irrigation areas. In this way, transfers between extremely distant regions would take second place as a solution to local water shortages. For example, aberration is the word used to describe the transfer project proposed "from the head-reaches of the Tagus to supply the municipalities of La Mancha and their natural protected areas, by means of a unified supply network, which has been planned without taking into account the local resources and infrastructures, which are feeding enormous irrigated surfaces with very inefficient water uses: for instance, the harvest of a kilo of corn demands a ton of water" (Naredo, 1999).

The two main innovations in this way are, on the one hand, the December 1999 amendments to the 1985 Water Act whose aim is to facilitate transactions between water users by way of two mechanisms: markets and water banks. It is argued that the previous system of water permits, established in the 19th century, was excessively rigid and that, not without problems, voluntary exchanges may be an efficient means to guarantee the most pressing and profitable requirements. On the other, the creation, in 1997, of the so-called State Societies, which are really anonymous societies funded with private capital, geared towards facilitating the participation of private capital in the execution of hydraulic works, as well as the management of all phases of the hydrological system, from exploitation of underground waters to the treatment of waste. This will lead to the appearance of a new tariff system for the users benefiting from the new privately funded infrastructures (Moral et al., 2000).

On the other hand, nobody seems to doubt that a greater part of the pressure applied to the aquatic environment would be alleviated, albeit traumatically, by applying the principle of full cost recovery to be found in the 2000 Water Framework Directive of the European Union. This is the reason why there has been a certain convergence of de-regulators (from the viewpoint of economic efficiency) and ecologists in their opposition to the supply oriented strategy, based on state paternalism. The arguments against the current situation are twofold. On the one hand, a system which only recovers 0.2 percent of the replacement cost of public investments made in dams and canals is condemned (Ayala Carcedo, 1999). On the other hand, the distinction between economic demand and physical demand is called for, meaning the distinction between the amount of water the users are prepared to pay for at a fixed price, and other quantities derived from the mere desire to dispose of water or have a right to it without thinking of the cost (Naredo, 1997).

Re-scaling of the Decision-making Processes

The increase in the role of the global scale (mediated, in the case of Spain, by the European scale) and the parallel rise in power of the regional/local scale in the definition of policies – already implied in the previously-mentioned changes – are making a decisive contribution to the amendment of the traditional water policy arena. Globalization is rapidly introducing new conditioning factors of a financial nature (World Trade Organization), political factors (growing importance of the European water normative), and cultural factors (diffusion of extra-Mediterranean values as criteria for the evaluation of water policy).

As in other countries of the European Union, the Commission has undoubtedly increased its power to steer water policy in Spain. Successive generations of water-related directives and regulations culminating in an integrated EU policy in the form of the WFD have enabled the commission to become the "defining scale of meta-governance as well as of second order governing within this sector" (Swyngedouw, 2002). The role of the EU is centered around its responsibility on environmental issues, as related to environmentally-protected areas that would be affected by the construction of new reservoirs and interbasin transfers. In this way, the EU represents a source of resistance to the traditional water policy community (see below), along with the weak political expression of the nature conservation agenda at the local level. However, an additional role played by the EU is linked with the grant of subsidies to partially cover the costs of these water regulation schemes, by means of the Cohesion Funds, in contradiction with the full cost recovery principle.

This double role of the EU has created some confusion, which favors the process of separating the general public from the information and underlying debate. Nevertheless, Spain's possible exit from these funds in the short term, especially on account of the entry of central and Eastern European countries will introduce a downward tendency of EU financing of hydraulic works.

On the other hand, the increasing regional role in water policy heightens this scale as a privileged arena for the confrontation and struggle for social support and political legitimization. This fact has appeared clearly in relation with the contradictions between the expansive river basin hydrological plans (1995), where regional governments and local stakeholders, in association with the traditional pressure groups, have had the most pressure to bear- and the more restrictive National Irrigation Plan (1998), more linked to the international rationale and thus more conditioned by the logic of market liberalization. The former foresees 1.2 million hectares of new irrigated land for the next twenty years, while the latter considers just 0.2 million. This gap can be partially explained by way of the different representation of regional governments (*Comunidades Autónomas)* and the local agricultural pressure groups in the organisms responsible for both sets of plans: river basin authorities (*Confederaciones Hidrográficas*) responsible for hydrological planning and the Ministry of Agriculture for the irrigation plan. The formers seem to be under more direct pressure from regional governments and agricultural organizations, which are struggling to achieve the greatest possible involvement in public invest-

ment and hydraulic resources. The Ministry of Agriculture, on its part, is more realistic and sensitive to the ever-increasing pressure of the World Trade Organization, to the successive reforms of the European Union Agriculture Policy and the irreversible fall in the number of people actually working on the land (a decline of over 40 percent in the last decade).

Inclusion and Exclusion

In Spain the transition to democracy (from 1978 onwards) has had major impacts on all aspects of the political, social, and institutional aspects of life. This has implied a further demand for greater public participation, an increase in the number and variety of actors that feel involved in the water debate and the changing role of a number of stakeholders.

Nevertheless, the continuity of the traditional water paradigm can be explained by way of the incomplete process of transformation of the above mentioned hydraulic policy community (Jager and O'Riordan, 1996) which, up until now, has controlled the water policy of the country. The water policy community is a governing power consisting of the main stakeholders involved in the working definition of the water paradigm: the corp of civil engineers, the main agricultural organizations, building companies, power companies, and chief organisms of hydraulic administration (Pérez Díaz et al, 1996). The inclusion of new stakeholders and the exclusion of other traditional ones, which is caused by the changes of scale in the distribution of power, fragmenting of prevailing interests and democratization, as well as emergent new values and social aims, have still not managed to completely undermine the strong cohesion of interests represented within this powerful group. Given the dominant management model, groundwater still holds a peripheral consideration in the evaluation of available resources. As in other countries affected by the hydraulic paradigm, hydrogeologists, who are mainly excluded from the hydraulic policy community, have severely criticized the predominant model of water policy, characterized by lack of knowledge, lack of respect for and consequent mismanagement of the aquifers (Llamas, 2000).

In addition to that, other factors promoting intensive use of water are still at work in Spain. Thus, the gradual decline of agriculture in the country's economy during the past 30 years does not have undermined the special position of this sector, highly dependent on a cheap and abundant water supply. Furthermore, new sectors of intensive agriculture have recently arisen as very dynamic economic activities. This strength of Spanish irrigation (a significant surface growth, solid social legitimacy, and strong presence of the sector as a political pressure group) contrasts with the reality of inner fragmentation, general dependence on subsidies and in many cases an uncertain future.

Conclusions

The issue of changing social perceptions of hydrological risk (droughts and floods) is central to social response assessment, as this change is a primary driver in institutional learning and adaptation. In this respect, some increase in social awareness concerning water issues, not only as regards supply, by also the quality and the water environment can be observed in recent Spanish history. This increased awareness has hardened the pressure on the responsible stakeholders to adapt and has generally lead to varying degrees of public participation and the involvement of a wider spectrum of actors in the water planning process. Under present societal conditions, there is an embracing of uncertainty and of a plethora of views making the path for water management less clear than before and highlighting the conflicts between the stakeholders and different groups within society whether such groups are formally recognized or not.

Despite processes of democratization, the analysis of stakeholders allows us to detect differences in the institutional emphasis and the level of participation of formal actors in a range of institutional themes. As have been tested in other countries, in Spain the processes of constructing the new arena of governance are associated with the rise to prominence of new social actors, the consolidation of the presence of others, the exclusion or diminished power position of groups that were present in earlier forms of government, and the continuing exclusion of other social actors who have never been included. In particular, the networks of stakeholders responsible for water consumptive uses and structural responses to water issues are generally found to maintain a higher profile compared to networks related to in-situ uses and non-structural responses, such as demand management and drought or flood contingency planning and mitigation. On the other hand, the new process is enhancing the power of groups associated with the drive towards marketization and with the diminished participatory status of groups associated with anti-privatization strategies. That is why the notion of inclusion or exclusion of actors, resulting from macro trends or the experience of hazard events, could be more adequate than that of plain democratization.

Despite the naturalization trend, there seem to be strong resistances in Spain to the change of deep-rooted nature myths as far as the acceptance of nature unbalances is concerned. Thus, a general tendency still in force to favor structural responses can be observed. A good example of this was the reiterative projection by the media of the image of Spanish rivers pouring water into the sea in the winters of 1996 and 1997 – in some cases for the first time in four years – as an example of the incompetence of the Administration and the need to complete the reservoir system that should avoid this so-called waste.

Concerning the marketization trend, there exist a general coincidence in the idea that the increasing the price of

water paid by the users is a basic condition for both of its correct assignation (economic efficiency) as well as the reduction in the pressures for more infrastructure development (defence of the environment). This is the reason why there has been a certain convergence of de-regulators and ecologists in their opposition to subsidies and water supply-oriented strategy. The increasingly relevant role of the European Union, with the principle of full cost recovery included in the Water Framework Directive, comes as another element of this kind of convergence. Furthermore, the international decisions coming from sectorial policies outside the water policy arena, notably agriculture, contribute to close the circle around the Spanish traditional water paradigm.

In this context, the dynamics of making the present permit system more flexible, the development of reallocation mechanisms among users, the progressive administrative decrease in water allotments for irrigation and incentives in tariffs for saving practices are bound to succeed. The equity of the result, the achievement of a particular kind of economic efficiency, with different social consequences, and the new structure of power relationships regarding water, with their corresponding spatial implications, will depend on the definitive institutional framework (values, information mechanisms, representation, and political decision-making patterns) against which the transition to the new management model will take place.

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